## REMARKS

These amendments and remarks are being filed in response to the Final Office Action dated March 18, 2004 and Notice of Appeal filed September 20, 2004. These amendment and remarks are filed concurrently with a Request for Continued Examination and a Declaration under 37 C.F.R. § 1.132. For the following reasons, this application should be allowed and the application passed to issue.

No new matter is introduced by this amendment. Applicants submit that in view of this amendment, remarks, and the supporting Declaration under 37 C.F.R. § 1.132, that this application is condition for allowance.

Claims 5-12 and 14-19 are pending in this application. Claims 5-12 have been withdrawn. Claims 14-19 have been rejected. Claim 14 has been amended in this paper. Claims 1-4 and 13 have been canceled.

### *Interview Summary*

Applicants gratefully acknowledge the courtesy of Examiner Sheehan in granting a personal interview with the undersigned on September 14, 2004. During the interview, the undersigned asserted that the comparison between exchange spring magnets produced by the instant method and Nomura et al. method, distinguish the claimed exchange spring magnet powders. Examiner Sheehan replied that additional comparisons would be necessary to firmly establish unexpected results over the prior art. The undersigned further argued that the smaller crystal diameter obtained by the instant method demonstrated that the Examiner's reliance on a "product-by-process" grounds of rejection was untenable. The Examiner indicated that this argument appeared persuasive but that further consideration was required.

***Claim Rejections Under 35 U.S.C. §§ 102 And 103***

Claims 14-19 are rejected under 35 U.S.C. § 102(e) as anticipated by, or in the alternative, under 35 U.S.C. § 103(a) as obvious over Nomura et al. (U.S. Patent No. 6,261,385). This rejection is traversed, and reconsideration and withdrawal thereof respectfully requested. The following is a comparison between the invention as claimed and the cited prior art.

An aspect of the invention, per claim 14, is an anisotropic exchange spring magnet powder made by a process comprising the steps of preparing a crystalline mother material containing a hard magnetic material phase containing a rare earth metal element, a transition metal element, and at least one element selection from the group consisting of boron (B), carbon (C), nitrogen (N) and oxygen (O). The mother material further contains a soft magnetic material phase containing a transition metal element, and at least one element selected from the group consisting of boron (B), carbon (C), nitrogen (N) and oxygen (O). The content of the rare earth metal element is from 2 to 15 atomic %, and the content of at least one element selected from the group consisting of boron (B), carbon (C), nitrogen (N) and oxygen (O) is from 1 to 25 atomic %. The crystalline mother material has a content of amorphous parts of 95% or less. The crystalline mother material is amorphised. The crystalline mother material amorphisated in the amorphising process is crystallized.

The Examiner asserted that Nomura et al. teach the claimed spring magnet powder. The Examiner acknowledged that Nomura et al. do not disclose the process steps recited in the claims. Characterizing the claims as product-by-process claims, the Examiner maintained that the prior product appears to be identical or only slightly different from the claimed product, and therefore a rejection under 35 U.S.C. §§ 102 and 103 was acceptable. The Examiner did not find the

photomicrograph evidence submitted in the previous response persuasive because it was not submitted in an affidavit or declaration form, one example was insufficient to show superiority of the claimed invention, the process for making the different powders was not adequately explained, and there was insufficient explanation of the photomicrographs.

In response to the Examiner's concerns about the evidence presented in the previous response, a Declaration under 37 C.F.R. § 1.132 by one of the applicants of the present invention, Dr. Munekatsu Shimada, is attached. The declaration describes the production of the magnet powder shown in Figures 1 and 2. FIG. 1 is a photomicrograph of the magnet powder made by the method taught by Nomura et al. and FIG. 2 is a photomicrograph of the magnet powder made according to the amorphising and crystallizing steps of the present invention.

As shown in FIG. 1, the magnet powder made by the method of Nomura et al. has crystal particles with a diameter of about 150 nm, while the magnet powder made according to the present invention has crystal particles with a diameter of about 50 nm, as shown in FIG. 2. Once the Examiner provides a rationale tending to show that the claimed product appears to be the same or similar to that of the prior art the burden shifts to applicant to come forward with evidence establishing an unobvious difference between the claimed product and the prior art. *In re Marosi*, 710 F.2d 798 (Fed. Cir. 1983). Because magnet powder produced according to the present invention is clearly different from the Nomura et al. magnet powder and the difference is unobvious, Applicants submit that the rejection of the instant claims under 35 U.S.C. §§ 102 and 103 as a product-by-process rejection is overcome by the showing in the declaration.

Exchange spring magnets produced according to claim 14 have excellent magnetic properties that enhance coercive force because of strong exchange interactions between smaller diameter crystal particles.

The quenched ribbon produced by the Nomura process is amorphous, while the crystalline mother material of claim 14 has an amorphous content of 95% or less. Consequently, a compressing process is required to obtain the nanocomposite magnet powder from the Nomura et al. powder, while the mother material of claim 14 is amorphised and crystallized. The amorphising process amorphises crystals remaining in the pulverized powder generating very fine crystals distributed throughout the powder. The very fine crystals grow continuously during the crystallizing step. As a result, an anisotropic exchange spring magnet powder that has crystal particles with diameters of about 50 nm is obtained.

The present invention does not include the compression step required by Nomura et al. Anisotropic exchange spring magnet powder is obtained from the Nomura et al. process by compressing the powder. The present invention obtains exchange spring magnet powder by amorphising and crystallizing processes. Thus, the anisotropic magnet powder of the present invention is obtained by the principle of crystal growth.

In light of the above Remarks, this application should be allowed, and the case passed to issue. If there are any questions regarding these remarks or the application in general, a telephone call to the undersigned would be appreciated to expedite prosecution of the application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 500417 and please credit any excess fees to such deposit account.

Respectfully submitted,

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